

(No Model.)

H. C. CLOYD.
BORING MACHINE.

No. 269,264.

Patented Dec. 19, 1882.

Fig. 1.

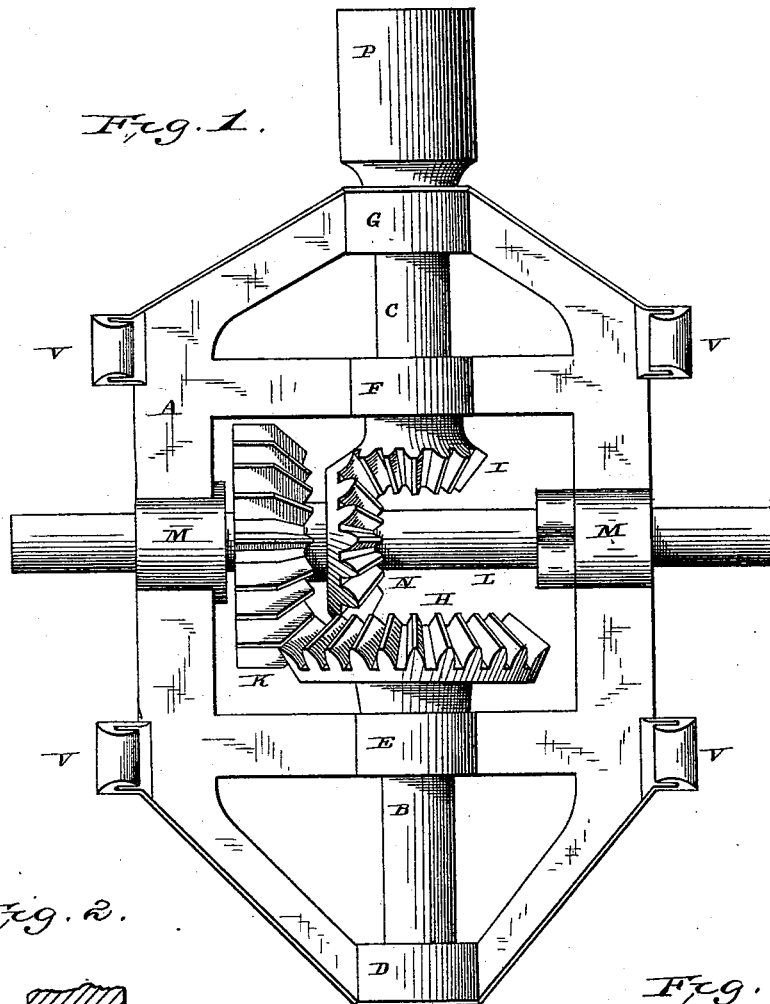


Fig. 2.

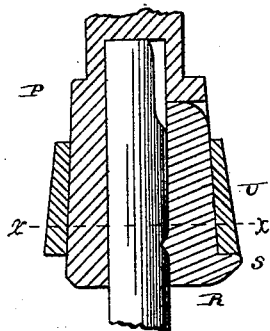
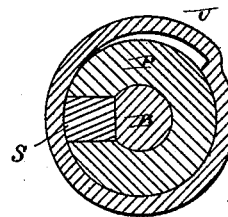


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY C. CLOYD, OF WEST ALEXANDRIA, OHIO.

BORING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 269,264, dated December 19, 1882.

Application filed May 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. CLOYD, of West Alexandria, in the county of Preble, and in the State of Ohio, have invented certain new and useful Improvements in Boring-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention has for its object to provide an improved boring-machine having the gearing so arranged as to provide for driving the tool at different speeds to obtain different degrees of power, as more fully hereinafter specified. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the frame and the improved gearing which I employ mounted therein. Fig. 2 represents a sectional view through the chuck, and Fig. 3 represents a section on the line *xx* of Fig. 2.

The letter A indicates a metallic frame, which may be constructed in any approved manner, but which is preferably formed in two parts, with suitable bearings for the journals of the respective gear-wheels.

The letters B and C represent the boring-tool spindles, which are journaled in bearings D E and F G in the frame A in such manner that they will stand in a vertical position when the apparatus is in operation. These shafts are provided respectively with beveled-gear wheels H and I of different diameters, the larger wheel, H, intermeshing with a beveled-gear wheel, K, mounted on a horizontal shaft, L, which is journaled in bearings M in the frame. The smaller gear-wheel, I, intermeshes with a gear-wheel, N, also mounted on the shaft L, before mentioned. The free ends of the spindles B and C are provided with chucks P, which may be of the ordinary or any approved construction. I prefer, however, to employ a chuck as represented in the drawings, consisting of a head having a socket for the reception of the tool, the said head being slotted on one side and provided with a pawl, R, adapted to engage a recess in the shank of the tool and hold it in place. The said pawl is provided with lugs S, which

are adapted to be engaged by the beveled lugs T on a loose collar, U, mounted on the head, which can be turned so as to force the dog or pawl into engagement with the recess in the shank of the tool.

The letter V indicates the guides by means of which the frame A may be attached to the main frame of the apparatus, which is of the ordinary construction. The said frame A, in order to be reversed or inverted, as will presently be explained, is provided with guides V on both of its sides, those appearing in Fig. 1 being employed when the shaft B is down and the opposite set when the shaft C is down.

The operation of my invention is as follows: The frame A is secured to the main frame in a vertical position, and when power is required the shaft B is set downward and the tool secured therein, the said shaft being put in operation to turn the tool by turning the horizontal shaft by means of cranks applied to the ends, as usual. When it is required to move the tool with more speed and less power the frame A is reversed in the main frame, so that the spindle C will be turned down, and the tool is inserted in the chuck thereon, and the shaft or spindle operated by rotating the horizontal shaft, as before mentioned.

As the wheel K is of less diameter than the wheel H, and the wheel N is of greater diameter than the wheel I, it is evident that the first-mentioned wheels will give power, while the last-mentioned will give speed, to the tool.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the frame A, adapted to be secured in the main frame of the boring apparatus, of the two boring-tool spindles, having beveled-gear wheels of different diameters intermeshing with beveled-gear wheels on the horizontal shaft, the frame A being adapted to be reversed in the main frame, so as to bring either of the tool-shafts into play, substantially as and for the purpose specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 22d day of May, 1882.

HENRY C. CLOYD.

Witnesses:

W. W. AKER,
T. F. AKER.